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Light's Measure

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The Thesis of Zebulon Nigel Zang is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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ABSTRACT OF THE THESIS

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by

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Master of Fine Arts

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As the production of images is increasingly seen as immaterial due to the quickly developing capacities of digital imaging this paper turns back to look at the material elements and social reorganizations which have been caused by or supported the growth and production of mechanical images. Through four investigations into geology, time, indexicality, and dust, the photograph is framed as a material object signifying more than the images on its surface.

Not just photographs, also rocks

I am a photographer who rarely makes photographs. Since beginning my graduate education I have made collages, publications, clothing, sculptures, films and performances, but no more than a handful of times have I produced and exhibited exclusively photographic works. I have always seen my own photographs as lacking—be that in terms of intention, or impact, or aesthetic finesse. They have rarely, if ever, possessed the capacity to arrive at the impact/importance/affect that I am seeking. This medium, for all its uses, seemed deficient in my own hands as a vehicle to properly describe the role that it has in the world. Photography has always been a self-effacing art (never far from falling into the realm of mere documentation). While early on photography's technological aspects took center stage (such as the work of Hungarian photographer László Moholy-Nagy) current photographic work within the realm of contemporary art, has moved towards more directly political or social aims that are communicated through semiotic readings of these images. This inclination towards a purely semiotic or narrative driven photograph, seems to leave little room to understand the impact of medium itself, and make conversations about such issues appear obsolete, conservative or antiquated within much of the visual arts discourse.

My solution to the "not enough-ness" of the photograph was to engage in other projects, side stepping the medium as a means to properly discuss it. Content was

always present but in moving towards experiential and expansive approaches to deal with "photography," I had to look outside of the photograph. The interests which continue to persist in my work are not exclusively medium specific but instead try to understand how new ways of looking, when they are truly understood and analyzed,

change our perception of the world at large. Within these modes of observation, narratives, and politics and social concerns do emerge however they are in relationship to a larger theme: that of recorded and re-experienced time. The hope that I have within my thesis writing and exhibition therefor are not to maintain a distance from photography but to find a way, which has historically existed, to discuss it through images. The discussion that follows—if it is properly accomplished—will not fall into the trap of instrumentalizing photography for purely political aims, nor focus solely on an insular critique of the medium, but instead, attempt to grasp one of the most problematic areas of art, the mechanical image and its innate relationship to a world that has been eternally altered due to its own invention. This entire search is in many ways an attempt once again to create a bridge between art and life through an insurrection that impacts them both.

The Geology of the Image

How does the material life of the image play into its capacity to signify as not simply a series of pictorial signs, but instead as a means of describing time, matter, and light? Through the introduction of instant photography, beginning with the Kodak Brownie—“You press the button we do the rest”—there began an increasing black boxing of photographic technology, which caused the technical aspect of this practice to become estranged from the wider discourse on the medium within art history and society at large. Reconnecting the photograph to its means of production and its materiality is, therefore, a vital means of bringing the physical life of the image back into the forefront. Not only does focusing on the photograph’s materiality situate its

discourse within a larger matrix of geological history and world ecology (which will be discussed in this section), but it also underscores the significance of its embeddedness in non-human systems and time scales. This return to materiality also attempts to remove the image from the zone of pure semiotic signification, returning our focus onto pictorial concerns within the picture plane—to look at its elements both visual and material.

The two goals of looking at the photograph in this way are to understand the physical processes inherent in its material composition, with the hope that this re-evaluation of the image as a material object will act as a kind of speed bump leading to the second goal of forcing a slower more methodical examination of elements within the frame itself. In reality, these things may not be overly connected, but they share a goal: The re-evaluation of how images are analyzed by taking the time to look critically and consider composition and content instead of taking the image as a series of references that signify something else, directing the reading outside the work itself.

With the increasing immateriality of the photograph, an attempt to attach it to the zone of geology may seem misguided, archaic, or simply nostalgic. This would be the case were we willing to understand the image as pure data without material form. However, the moment we begin to look at the mineralogical basis for all communication networks, photographic or otherwise, the myth of immateriality dissolves. The production of these imaging and communication technologies rely on the minerals of the earth to exist and form the basis for devices and the connective cords that permit communication to continue. To look at the numbers from a 2008 survey, we may see

that “36 percent of all tin, 25 percent of cobalt, 15 percent of palladium 15 percent of silver…” are used in the production of media technologies (Parikka, 34).

This relationship between technical media and geology is one of power and potential. Base elements are extracted from the earth and transformed into new configurations where this potential is activated within the human sphere of cultural production (Parikka, 50). This meeting point is described by media archaeologist Jussi Parikka as an entanglement of culture and geologic elements that in part exist beyond human intention or control (Parikka, 13-14). While the anthropocentric viewpoint urges us to consider these media within our own time, the substrates on which these recordings are registered exist within time as well—“counting rather than recounting” duration within an “archeological [not] historical mode” (Ernst, 7). The work of cultural production may need to be thought of as having a new relationship to time. Not only has art been written about within the perpetual present, but also within a history much larger and more complex that can be understood through any kind of technical recording.

This cross staining of times, materials, and intentions offers the potential for a reconsideration of the boundary lines between culture and nature, a theme that will be returned to throughout this essay. To hold a photograph in one’s pocket, or even the potential of making an image (be that a cell phone or a traditional analogue camera), is to carry the earth within a reconstituted form. It is through these parcels of land that we are first able to grasp its entirety through the photograph taken by astronaut Bill Anders in 1968. In Parikka’s terms, “through media we grasp earth as an object for cognitive practical and affective relations” (Parikka, 12).

Through this process of thought then, we may not only think of the photographic negative which is composed of those extracted elements from the earth as containing the landscape within its frame, but also as a microcosm of the processes through which that landscape may be formed. The silver, plant, and animal material that constitute the layers of materials which produce the negative are mineralogical at their base. In these instances, light becomes a tool for sedimentation, solidifying certain places on the image and leaving others sensitive. The chemical process of development erodes the remaining light sensitive areas away. The negative is a sped-up version of landscape formation as it at once creates a physical plane and an image. In this way, no image can be thought of as immaterial, but instead as consisting of the very things that may be pictured within it. The life of the photograph makes is a micron thin landscape of silver, or ink so sensitive that its erosion may even occur from light or simple human touch.

A photograph in a wallet

A photograph is stored in a wallet that is always kept in the front right pocket of a pair of jeans. It was taken in a photo booth at a mall on the day the people in the photograph met. None of them can remember what time of year it was when they posed for the photograph, nor how many years ago it was taken. They all suspect that the photo booth is no longer there, even though none of them have been to this mall in years. In this little room were two curtains. One a deep orange the other a light blue. It was possible to slide them both aside and use instead an illuminated piece of white plastic as a backdrop.

The photograph has three people in it. Like the age of the photograph, the length of time it has been inside the wallet is unknown.

It was quickly ripped from its strip, each person taking one frame. It lived on a shelf for a number of years, looked at occasionally. For a long time, there was no reason to look. But as all photographs do, it gained value with time. The people in the picture started dressing differently. They grew their hair. Their faces changed. The

photograph now was worth something; it provided version of these people that had been slowly and perhaps purposefully forgotten about.

The following years and complications they brought aided the slow dissipation of this group. By this time the photograph had moved into a hollowed out encyclopedia alongside other photos and hand written letters. When the photograph was rediscovered in this secret storage spot, it was moved into the wallet. There it would rub against bills and cards and coins. The sides began to curl towards the middle, and the edges started to fray.

Sometimes it gets taken out of the wallet and looked at and thumbed gently. The colors and forms on its surface have started to wear away. It gets put back in the wallet and forgotten about for a number of weeks or months before being rediscovered.

Its surface is almost entirely erased. The trace of the people in that little room with half orange and half blue curtains behind them, only a faint ghost, and soon will disappear totally. The photograph isn't sure where the rest of the strip is and isn't sure if it could be recognized by its former neighbors. The owner of the photograph looks at this slightly off-white square sometimes, continuing to thumb it and returning it to the wallet. They both know that someday it will disappear totally. Even without the colored surface, there remains a memory in some form of the people in it, as though they had melted into the object itself. This thing, perhaps no longer a photograph but instead simply a piece of paper, would mean nothing were we to look at it now, but it keeps a secret of what had been its surface, even if only for one viewer.

To make a better time machine

What photography and all technical media have always attempted to produce is a successful time machine, removing an imprint of the world and storing it for subsequent recollection. In other words, the challenge has been to try and stop the flow of time and generate a stasis within a material surface. The first written record of the human capacity to produce a legible image of the world within a darkened space of a camera

obscura dates back to 4th century China (Needham, 18). While the photosensitive materials used in the production of analogue photographs had existed in practical terms as long as the Earth. However, it was not until 1826 that Nicéphore Niépce created what would be dubbed the first photograph in Burgundy, France (Encyclopedia Britannica). This temporal delay points to the fact that while the constituent parts of photographic production—projected images and light sensitive materials— as the component that allow the medium to exist, it is a newfound control of time that "invents" photography. Niepce's ability to forestall the rate of the instant's decay so significantly that to look at it is to see a frozen moment, is the basic tenant of photography's magic. This arrested dissipation produces the phenomenological effect of ripping the image out of time's flow, providing a fundamentally new experience of time to those who are subject to its conventional passing.

While the most noted inventions of modernity resulted in the bending of an individual's experience of time—whether speeding up and condensing the experience of spaces through faster travel, or systematizing the flows of life through mechanically tracked time—the photograph grips time, making it tangible, decelerating movement to a speed that allows it to be stored on a singular surface. Its slowness is a counterweight to the speed at which the world is experienced. In part because of this slowness, early photography became enmeshed with truth claims and objectivity, as if the ability to look at a moment indefinitely gave access to some deeper perception of it, a misunderstanding that continues to persist. The speed of an image does not make it any more efficient than the experience of speed provided by motor transport for the

evidence of specific truths. What this technology did provide in place of objective truth was an alternative frame for the conception of time.

To think of the photograph geologically, as previously discussed, as well as pictorially is to understand it as an object engaged with two different time scales of equal importance, those of geologic and cinematic time. Both of these modes are, I will argue, equally non-human, but they become legible to the viewer through new mental models created in the discourses of science and art. As discussed in the first section, the geologic qualities of all technical media play a key part in a complete understanding of the medium and its consequences. To begin this discussion of time, it is therefore important to look at the development of what is often called “deep time” which arises through an examination of the geologic record and forced a reassessment of the age of the earth.

Time—beyond that of human memory or record keeping—first becomes visible through the mineral and materials of the earth. One of the earliest recorded examples of this is Aristotle’s observation that fossils he found resemble the shells of living creatures that could be seen on the beach causing him to developed the idea that they were once living animals that had calcified as the land and the ocean changed positions over time (Janke). Middle Eastern philosopher Ibn Sina subsequently developed some of the earliest and most important ideas around geologic formations which were the most prescient and accurate observations of geology in his time. His theories formed the basis of understanding igneous and sedimentary rock formation, as well as the formation of mountains and their erosion (Al Rawi, 4-6). All of this prefigured later theories that are considered the basis of contemporary Earth science. These

observations were formalized centuries later by the scientist James Hutton who developed and published the basic systemic outline for modern geology in his book *Theory of the Earth*. Within this book he proposed that the earth possessed a hot core, from which rocks may be produced, and that these rock formations would—through wind or water erosion—deposit layers which would then be heated to create stone anew (Hutton). Hutton's theory of rock geomorphology and sedimentation then formed the basis for the investigation of the Earth's true age as possible through geo-dating (Hutton,18). Through these conceptions, the true age of the earth and the immensity of time for which it had existed, became apparent to geologists and scientists focused on understanding its history.

For the purposes of this essay, the specific naming of the various eras within this geologic record are not necessary, what is of essence here is the understanding that through scientific inquiry into the formation of stones and the life span of materials, there developed a means of thinking of time beyond the traditional human framework which looked at history in terms of narrative experience. While the conceptualization of deep time has its most significant impact within the field of earth sciences, it still significantly affected the understanding of the earth's lifespan and the various religious and cultural models previously established around its age. Moving forward from these moments of scientific enlightenment, the birth of cinematic time at the onset of modernity occurs alongside the reconceptualization of time as whole through the insurrection of the machine.

It is through this insurrection that cinematic time develops; however, it is only a piece of the wider trends towards the measurement and homogenization of time in this

moment. As film theorist Mary Ann Doane has argued, new formulations of time and space imposed through advancements in transport, communication, and labor alter the experience of connectivity and production writ large throughout the world (Doane, 13). While the photograph may freeze time, it is the necessity for the clocks capacity to mark all hours of the day that plays a more important initial role within the mechanization of life within modernity. There is notable change as working populations migrate from rural areas towards city centers and begin taking up employment in factories. These workers whose labor had been measured through task based agrarian approach to work, were now under the a new metric of monitored time based employment within the factory (Doane, 4-7).

While time became ordered and regimented in new ways, the mechanical image and the development of cinema created a different novel experience of time consisting of a mixture of disjunctive presents. Firstly, the basic temporal dissonance between the moment of an image's creation and its viewing forms the first experiences of shock that this object incurs as a thing which seems to exist outside of the flow of time. The second disjunctive presence is the illusion of movement. These new technologies of photographic production took advantage of an inherently human quality that revealed as a certain level our capacity to delineate the present as having a fundamental lack. This is best described by theories of the afterimage or the persistence of vision, which together prevent the separation of "a pure present" from the "visible wake of the past" (Doane, 9-10).

The two artists most commonly cited to provide explanatory examples of this connection between the moment frozen in time and the multiplicities of time in a single

moment are American photographer Eadweard Muybridge and French physiologist Étienne-Jules Marey due their parallel investigations of movement. Muybridge's work and his presentation of it mirrored the physical form of cinema, with discrete images laid out in a temporal sequence. Marey's multiple exposures onto a single frame, however, describe the perceptual processes of afterimage necessary for the experience of motion, with the negative acting as a parallel to our own perceptual apparatus, which records what might otherwise be seen a single movement in a multiplicity of its parts.

This leads us to the ultimate proposition: to be indexed is to be made immortal. The capacity for measurement and control, and in simpler terms, record-keeping, was the foundation which allowed for a new form of labor to develop within city factories while simultaneously allowing for the imaging of these workers and the preservation of their likeness. Time became controlled through mechanism as never before, be it the train, the clock, or the camera. For its part, photography's capacity for temporal dissonance brought about ideas of a capacity to reach beyond death and allow those depicted to remain within the realm of the living (Doane, 3). Both those within, and those who gaze at, an image may be transported through time and space, and given a place of connection otherwise imagined as impossible.

Through these two conceptions of time, the geologic and the cinematic have both become naturalized. By cultural and scientific imposition, they are equally inhuman, in that they are experiences of time that are not natural, but which are arrived at through the use of apparatuses. Whether physically experienced, as the case is with the film, or conceptually presented as deep time, must inherently be understood these forms of time both presented significant breaks in the way in which life could be understood. The

age of the Earth, 5.2 billion years, is too large a number to keep in our heads. It can only exist as an abstraction. Like the concept of immortality, it is beyond experience and even beyond imagination.

A Photograph of the Present

A photographer tried to make an image of the present. In a bright white studio, she started by having her model remove their clothes. To make a thing of the present could not be possible with anything so fleeting as that white T-shirt and that pair of black jeans in the frame. The model was then naked but still the body in front of the photographer felt marked in some way.

Do moments in time inscribe themselves on the bones and muscles and sinews and skin? Is there a physiognomy of an age developed through the demands of work and movement, and the restrictions of clothing that slowly bend the body pushing fat and muscle to hang in new ways. Could this labor and this cloth be the prosthetics of an evolution that takes place over the course of a lifetime?

The bodies and faces of German photographer August Sander's subjects seem to prove this as true. The round-faced portly baker, could not look more appropriate, nor could the broad-shouldered bricklayer. They seem too much of their moment and of their trade even move. They are cemented and stable in their place. The photographer did not want this stability. She wanted to exit history.

Though it may not have fulfilled this desire the best solution she could conceive of was to have the model shave their head down to the scalp. This made the body as far out of time as the photographer could imagine it to be. It was without style, and she hoped that would situate it in the perpetual present.

To make an image of the present required more than an empty model. There must be no waiting for film to develop or prints to be produced. The image must occur instantaneously.

Here, the delay of the digital camera—although only a fraction of a second between the light entering through the aperture and the display of the image on the screen—still felt too long. Though the digital image was remade anew every time it was

viewed, not as an image but a set of instructions reconstituting it. It was more present but not enough.

The photographer replaced the digital image with a live video feed. However, the harder she focused on the immediate moment, the wider the microsecond gap that existed there appeared to be.

"It is the machine that is the problem."

The machine could never be present. As perpetual motion is impossible, so is the description of an absolute present through an apparatus, no matter how close it may seem to be. The friction of production makes both of these impossible. That these images were not of that moment made them feel more estranged than if they had been made years in the past.

The only way to have an image of the present is to switch time scales and for the world to become the image. Their image must be set on another timeline that exists parallel to the real one that they currently inhabit. They will carve themselves out one moment and be stuck in it forever watching for time to complete its cyclical journey and return to them. This moment waits outside of the cycle for what seems almost an eternal delay and exists only for that one instant when it is again the present. This moment is the image of the photographer and her model nude in the studio. And it re-lives that moment again and again forever, and this series of forever's is the perpetual present with irrelevant infinities on both sides.

But this could only be dreamed of. The model stared back at the photographer standing beside her cameras and lights, thinking that they may never be properly in one another's presence. They cannot be the image that exists outside of the time waiting for that fraction where it is again the present in each eternal cycle.

They wanted to be stripped out of this forward trajectory, and in this photographic studio like a giant white brain scrubbed of edges where the floor blends with the wall in an empty space they thought they could. They had dreamed that it might be possible to create their own timeline, where things were slower, where the rest of the world didn't exist. Where they could be in the photograph frozen, perpetually present apart from the flows of real time.

But there is no way to make an image of the present, because an image is preservation and that is something that can only belong to the past.

Light leaks in the darkroom

Having spoken about the materiality of the image itself as well as its relationship to time we must then move on to a discussion of the camera and its role as a specific object – not as a general part of the wider trends of increasingly mechanized life of early modernity. To think through the camera and its consequences within the broader sphere of image production I have found it useful to look at the Brazilian theorist Vilem Flusser and his discussion of photography.

Flusser's writing positions photography as a potentially emancipatory model of image production that may however easily become a repressive threat to creation and human sovereignty if not properly interrogated. Flusser lays out a genealogy that places the photograph within the development of non-spoken communication as levels of abstraction. He describes three levels of abstraction into which non-spoken communication falls. Firstly, there are drawings which are the first order of abstraction from nature. Writing is more abstract because does not rely on formal similarity between itself and the thing it references, and it so falls under the second order of abstraction. Finally photographs, which are derived from apparatuses (in this case, the photographic camera), exist only because of their reliance on scientific texts reflect a third order abstraction, more removed due to its reliance on language. (Flusser, 14).

The problem that photographs present however is multifold. As the photographic image appears so visually similar to the world commonly perceived, the analysis of a photograph is rarely focused on its abstracted character, but instead exclusively on the

world depicted within the image (Flusser, 15). The photographs apparent fidelity to the world promotes its usage and interpretation as clear signs whose construction does not need to be questioned. The camera however is not a simple tool; it is an apparatus, which inherently means it cannot make pure signs. Apparatuses have as their goal “not to change the world but to change the meaning of the world” (Flusser, 24). They function on a symbolic level, instead of a material one, altering the method through which objects become coded, acting out a soft power over interpretation.

This encoding may be inherent within any kind of apparatus derived from scientific texts; however, the danger presented by the camera is the invisibility of the limitations set out by its program. The camera has a set number of potential outputs. With each new photograph made, the “photographic universe” is made richer, while the “photographic program” is made poorer (Flusser, 26). It is through these invisible barriers and that the camera may hide its controlling programmatic aspects. The only means of escaping this control; however, is to work against the program of the camera and to undermine its limitations, not simply for the sake of photography, but for freedom at large. To rely on apparatuses as we increasingly do, is to make humans less competent, as they simulate thinking and overtake potential for actual varied production (Flusser, 32). This warning goes beyond a Marxist idea of alienation from production, and into the realm of “an existential revolution” that has no preexisting model (Flusser, 79). To lose control of the means of production is the basis of class struggle, but to export creative faculties onto machines is a much greater form of loss, which is inevitable if their mechanism for production is not questioned.

In essence Flusser's argument here, is a medium specific one. It tries to stress the importance of an integrated understanding and analysis of photographs, not by falling into the easy and seductive trap of analysis which considers only the constituent parts and pieces as uninhibitedly part of the world. Instead, it looks at these images as encoded in a specific way within the interior of the black box of the camera; any criticism must be "aimed at an elucidation of its inner workings" (Flusser, 16).

Modern cameras of any stripe have a program enabling them to create functioning images. These images are key for delivering data, as they remain consistent and predictable. However, the apparatus always has technical limitations, and when pushed, it may produce an object that does not fit within the prescribed set of outcomes. While these are usually avoided, the exploitation of these technical limitations can serve as a means of subverting the program, and often do so by bringing the materiality of the image to the forefront instead of dissolving it.

Such aberrations, not the proper fulfillment, of the camera's program (i.e. making clear, highly detailed pictures), can serve as an emancipatory potential for making images. While automation leads to a kind of estrangement from these products, the failure of these instruments presents a possibility for the technology to assert its own presence instead of obfuscating it, and reveals qualities of its mode of production. As the ease of producing high resolution visually detailed and saturated images increases, the photograph reduces its signal-to-noise ratio towards an existence as a "mediumless" image.

By exploiting the noise of the medium and its potential failures, however, we may discover the actual *poesis* of its image-making capacity, and create something that

could only come into being under the specific conditions of production. One could perhaps saw that a “bad image” is a medium specific one, one which allows not only for the self-reflexivity of the work of art, but also a visual reification of the material properties and attachments within this field of artistic production. An actual camera aesthetic (double exposure, problematic depth of field, etc.) is made up of these aberrations.

It is only when the black box of technology, or the darkened chamber of the camera do not align perfectly that we begin to see the true potential for this mode of production. To intervene in the walled off zone of creation and undermine its preset outcomes.

The fullness of dark space

You wake up in a room that has never been fully dark. A light the color of sunburnt grass leaks in through the large windows high up on the wall that you have never bothered to cover. This light is always on, but disappears with the morning sun, and reappears each night. It is still dark enough that through your blurry morning eyes everything appears as outlines in shades of deep grey. Things emerge in this low light without detail. You recognize certain objects while remembering all the things you did not clean up last night. There is a table covered in empty bottles, a stack of boxes, a pair of gloves hanging off its side, body wash, a tape measure, a keyboard, a T-shirt, a Brita water filter, a stick with a piece of rope wrapped around it, a large wooden closet.

You had fallen asleep in this room last night at 4 am, and when you woke up the only thought in your mind was the fact that you are totally completely and irrevocably here. That when you saw these things there was nowhere else in the world you could possibly be, no memory you could be inhabiting. The space then felt empty and defined by these objects, which are only visible in negative making obvious all the area in the room that they do not fill up.

The slow undulating light of the computer power button stains the side of your optical cord.

The night before, you had been working in a dark room with another person. Unlike the room where you are lying half-awake that made you blind and invisible with its total darkness. In the dark there are no outlines, but rather a fullness as though the space was filled with a body temperature, liquid millimeters from lightly licking at your eyes and skin. The fullness empties out the moment you come into contact with this other person. To touch and fumble as you do in the dark is inevitable. You are incapacitated. You have lost your sight. You can only touch. You are surprised how ungracious you become when you do not know where your hands fall in the world.

A scrap of useless trivia floats up in your mind thinking back on this moment. It is perhaps mis-remembered or mis-attributed and should definitely be labeled apocryphal. It is about Ludwig Mies van der Rohe and his description of windows. He once wrote about the windows of his glass houses not as portals through which to look at the outside world but instead as surfaces upon which all that was outside collapsed onto, like an ever-changing painting. The darkness does not so much collapse onto a single plan as it does fill a space, but there feels to be some connection between Mies's windows and the darkness pressed against your skin.

You allow for incapacity within room because of the magic for which it makes space. It lets you make things together otherwise impossible. Chemicals strewn about with the danger of poisoning yourself years into the future in a way that you will never understand the potential harm in this moment. It is not felt but it enters into you. The darkness is more immediate. It is everything until the moment the door opens and things are carved out by light. The potential dissipates.

In the all black studio, things seem infinite. There are no walls and the thick liquid of the dark parts as you move through it. In this room time becomes relative, movements become uncertain, bodies touch out of necessity, emotions and worry and fear have no space in this room filled with complexity and potential. This is the value of work and the value of darkness and the value of theory, it means you do not have to be present, you do not have to contend with your own limitations or issues, they are segmented off, far away, in the visible. Like being in a theater, you can suspend your presence from the world, at least for a time. But when light enters in and carves out the space you are again stuck forever in that moment in one place and time.

The sculptor's studio and the invention of index

The notion of the index foundationally explained within the writings of American philosopher C.S. Peirce, as he situates it within his theory of signs alongside the "icon" and the "symbol." For Peirce, the index "is a sign which refers to the object that it denotes by virtue of it being really affected by that Object" (Peirce, 102). The index is a sign that has a physical connection between itself and the object to which it is referring. These relationships would be things such as a bullet hole being indexical of the bullet that cause it of the direction of a weathercock being blown as indexical of the wind (Peirce, 104-108). The index however unlike the icon or the symbol because its relationship is to its object not a concept (upon which the icon relies) or an interpreter (upon which the symbol relies) (Peirce, 104). The index is what Peirce calls and "individual second" which may be genuine if its relationship to the object is existential, or degenerate if this secondness is instead a reference (Peirce, 108). Here potentially we may think of the silver gelatin negative of a photograph as being a genuine index as it is the direct imprint of light on silver whereas the digital photograph whose secondness is a reference is a degenerate index as it is a series of electronic impulses turned into binary code.

As the index is about a sensuous connection between the thing signified and its sign, where we see a kind of touch that makes that thing possible- outside of the usual operation of human signs systems and this leads back to my general argument around the for-fronting of the material and the need to actually look at the things that are in front of you. It returns to the need for an actual observation of signs and the things of which

they are composed in order to exit from a system of pure signification and look instead into the material qualities of the objects used to produced the works themselves.

The indexical impulse plays itself out in many ways throughout art history however it is notably examined within Rosalind Krauss' essay detailing the importance of the index within American art of the 1970s. Krauss looks at the work of Marcel Duchamp, framing him as a key antecedent to this development and explaining the importance of index within his work, specifically as it functions in moving outside of established historical forms of artistic production and its reliance on chance as key to the artworks making (Krauss, 71-78). She then positions the role of the index as having grown enormously within the art of the 1970s, referencing the use of technical media, specifically citing the increased usage of photography in art, not only by photographers by also those making "earthworks… body art, and story art" and conceptual art (Krauss, 78).

Despite this expansion, the conception of the index seems to be for Krauss perpetually connected to the interior logic of the photograph, especially as it informs a move away specific visual styles and forms within the lineage of art history which are found within the "interpretive arts" - drawing/painting - and are replaced by indexically motivated works with "a particular presence" (Krauss, 80) . In part two of the essay, however, Krauss does begin to attribute the idea of index to methods of production beyond those of the photograph, such as Matta-Clark's building cuts at PS1, but this remains tethered to a photographic sensibility (Krauss, 65-67). What Krauss however seems to willfully remain ignorant of, is the index found within the sculptor's studio in the form of a cast. (Note that this would also be obvious, as Bruce Nauman's body castings

were already being show in New York in the 1970s, not to mention the growth and importance at the same time of the Arte Povera movement in Italy)

Perhaps because the history of casting falls into dispute as it historically exists within the realm of documentation or visual aid rather than the realm of art.[1] This may account for Krauss's distrust of the method, however its importance within the history of sculpture seems beyond dispute. Though casting first develops from early coin minting, with evidence pointing to earliest known lost wax casting as being dated approximately 6,000 years in the past, the process is inextricably a part of the development of artistic practice both sculptural and painterly (Thoury, et al). While lost wax casting is an important part of more traditional forms of sculpture— i.e. those still dependent upon the "interpretive creation" of sculpting forms by hand— life casting is put to common use in the sculptor's studio to create quick and accurate models of specific body parts or three-dimensional forms. Though this process existed much earlier during Greek and Roman antiquities, it had a significant resurgence during the Renaissance as Europeans looked back to attempt to copy forms of production from Antiquity (Ceninni). These casts, however, were not finished works, but visual aids in service of the true arts of painting and sculpture.

The first life casting that took place however was in the form of death masks created in ancient Egypt and Rome to preserve the likeness of important figures in history (Derda, et al 63). In some cases, it is thought that these masks were actually colored to resemble a living face and worn by professional mourners as a means of a

[1] This mistrust of non-interpretive acts of creation- photography and casting- and their uncertain place within the world of visual arts further echoes these similarities and the issues facing the notion of the index within the proposal of what art is historically

“posthumous tribute from the already dead to the memory of the latest man who had died” (Hutton, 2). In all aspects, these forms were made as an attempt to create an accurate imprint of the recently deceased to keep alive their memory through their likeness. This impulse is obviously not far from what motivates photography, however, it is the shared relationship to the indexical that connects these forms in terms of both implementations and reception.

The index is a complicated aspect of artistic production as it is perhaps the most common culprit for the exclusion of specific methods of production from the realm of art. The index is difficult because it is not the record of an interpretive faculty, but instead a record of a sensual connection (be that through actual physical touch or the touch of reflected rays of light) and time. The key here is that traditionally artworks made through a creative faculty are seen as existing within a perpetually present state. The indexical work, however, ties material to a specific moment as its creation must be situated within a time of contact between the receptive surface and the thing which made contact. This ties the nature of the index to a space outside of art, as part of a larger system of natural processes. This interest, however, pervades many sculptural practices within the latter half of the twentieth century such as Land art and Arte Povera. Curator Germano Celant, who coined the term Arte Povera, sought to help break down these divisions between art and life by positioning “animals, vegetables and minerals [as part of] the world art” (Celant, 225). He goes on to extol the importance of common place materials within the production of art, arguing that art is based more on exchange between its producer and the natural world that surrounds them rather than only its production (Celant, 225).

Though Celant sought to embolden this exchange, art, as close at it may come, can never be nature; it must always remain artifice. But its existence as artifice should not limit its potential for meaning or importance. In fact, it's very artificiality is the thing that could make it valuable and exciting. The zone of cultural creation whose artificiality will always trump the realm of visual art seems obvious especially within the context of Southern California: namely, Hollywood.

The scale upon which fantasies are produced at the "Dream Factories" of Hollywood film studios, trumps any kind of artifice produced in art—one might think here of the enormous Babylonian stage sets in the 1916 film *Intolerance* by D.W. Griffith. However, for this essay the construction of nature, specifically geologic forms, has a much greater value and interest. The fake rock is one of perverted materiality, acting for the camera as real while simultaneously preserving the qualities that are very "un-rock-like" (lightness, fragility and low density). They are only skins designed for the camera to make real. And while sometimes carved and sometimes casted they make clear the dissolution of materiality provided by the photograph.

Notably, they are used in early cinema, like Buster Keaton's 1925 American comedy *Seven Chances*. In this film, eligible women pursue Keaton, looking to become his wife. They eventually chase him onto a mountain side and are themselves replaced by a series of tumbling fake boulders. The reality of these papier-mâché rocks put Keaton in apparent danger, which was not uncommon for the vaudeville child prodigy turned slapstick actor.

But now the photographs capacity to melt materiality from form has intensified through the process of "photogrammetry"—the act of extracting measurements from

photographs. Increasingly powerful programs use high resolution images to create three dimensional maps of objects or areas captured through photographs. Although the software for this type of work has developed over the past decade, it may also be thought of as casts made from light. These three-dimensional objects are not strictly speaking indexical, but they are produced from digital images, which exist as instruction sets to be read by a computer or a camera. However, they provide a possibility for objects to be recreated to the exact size as their original referent, serving as an non indexical digital response to the sculptor's studio. These photo casts of nature however also become a new kind of nature within the space of the filmic image by serving as mountainous backdrops, as small rocks become enlarged to the size of mountains within the world of the film.

The fake stones or fake mountains seem an appropriate place to end the discussion of indexicality as they are at once completely outside of time, not taking into consideration their material or the manner in which it will age, but rather their visual qualities and their appearance in front of the camera. The photogrammetric model is a return beyond the world of the so-called "indexical" trace, which still shares its concerns of imprinting and reproducing the world around us. It is the three-dimensional object collapsed into image (or into data) reconstituted, and then re inserted into the three-dimensional world from which it came (be it by machine aided sculpture or digitally produced landscape). The recursion and return between the fake and the real, and the boundary lines between what may be considered intention versus mechanical craftsmanship are key. The question of connection, age, and most continually time, arise at this point when we try to understand the index and its multiple instantiations in

our attempts to preserve the world or to make art of it. Perhaps the best way to think of this balance is through the ancient Greek idea of *Naturan Naturata*, which describes a central issue within the process of making—the dichotomy between nature as it is, and nature as it is represented. The distance between these two poles is the place where art must at some point inevitably fall.

To Make a Theater

The building was very old. It was a copy of a more famous and even older building, that had copied its decorations from a civilization thousands of years older. It was not the first theater in this small town, but it came to be the most important. The inside was darker than most buildings, and there as a twilight ceiling with lights that ebbed on and off pretending to be stars in the night sky during screenings. At other times the seashell shaped lamps stain the walls with their orange hued glow. The neon lights in the lobby were arranged in cascading forms of blue and white and red and painted the skin of the popcorn and the people alike in their respective colors.

Even though this building was a copy of a copy the people who lived near it always said it was better than the original. It was theirs. For them it was the original, or the only one that needed to exist. But even so, few of them said anything by the time it was finally announced that it would be closed down and demolished. A small group formed to write letters and petition local politicians to stop the demolition, but it seemed that in a town this small, if something was decided to be no good, there was little chance to change that verdict.

A man who had spent his childhood Saturdays in this theater, watching cartoons and hiding, horrified that he may win that week's raffle and be forced up on stage to claim his prize, visited the theater every day of its deconstruction. He would walk there from his job at the local university, and check in to see what had been taken down what had changed. The workers soon got to know him.

On the day they began to deconstruct the candy counter he was there and couldn't help but ask if he might take home some of that cascading neon tubing, as a

souvenir of the time he'd spent in this theater as a child, as a ticket ripper and finally as a projectionist in his final college years.

He hung these lights in the basement of his house, beside the room where he kept his own 16mm projector. He had so avidly purchased films for it over the past few years that he had run out of space and started throwing away his clothes to make room in his closets for metal canisters of Saturday morning cartoons, or Laurel and Hardy shorts. He had always joked that if they lost the theater, he could just build his own in the basement. The projector already set up, he now had the neon the only thing missing were the proper seats.

Maybe it was a way to deal with the loss of this piece of his past, or maybe he just wanted a place to watch movies with the people who used to sit beside him at the theater. He slowly accumulated the pieces for the theater more than just seats but also a glass candy counter, popcorn machine, motorized curtains for his screen all from businesses and churches and all the places he had grown up that have since been forced out of business.

The theater is now not just a theater, but a bricolage of pasts layered on top of one another. Each of them kept awake in some way by their incorporation in something still living. All these pieces for what is now the Bijou theater in the basement of 246 Daxton Lane.

The interruption of dust

To think about dust is to think about something that appears formless, something that may be hard to give an outright definition to. French author Georges Bataille in his description of dust within his *Critical Dictionary* in the 1929-1930 journal *Documents*, speaks of it as that which will always return despite all efforts to keep it at bay (Bataille, 14). This uncertainty and problematic recurrence of dust fits perfectly within the framework of Bataille's dictionary whose goal was the removal clear, defined, and calcified definitions to be replaced with more fluid or indescribable modes of

understanding. As he puts it: “for academic men to be happy, the universe would have to take shape. All of philosophy has no other goal: it is a matter of giving a frock coat to what is, a mathematical frock coat. On the other hand, affirming that the universe resembles nothing and is only formless amounts to saying that the universe is something like a spider or spit.” (Bataille, 3)

This mathematical frock coat of total definition is in many ways the direction which photography leads. As described through Flusser and Doane, the photograph operates within a program in order to systematize and deconstruct time and the visible world. The photographer Jeff Wall also writes about this issue, describing and classifying the medium’s capacity to record natural forms never before seen or understood (Wall, 68). He, too, warns against the increased mechanization and the removal of photography from processes that involve contingency or chance, or what he calls the “natural flows” of the world which may be understood as the chemical photographic process where in there is a greater sensitivity to outside forces (Wall, 68).

For Wall, the dry aridity of the digital mechanistic operations of the photograph becomes stifling, and removes the makers of images from crucial aspects of the world. The dryness that Wall equates with the mechanical and the wetness with the organic may find some kind of echoes within another pairing of wet and dry—that of the distance between dust and dirt. Dust (dry) is arid, and dirt (wet) is fertile. It is, however, through the aridity and subsequent lightness of dust that it has a capacity for greater movement and recombination than dirt. It is more easily integrated through its smaller parts.

Dust may enter into all areas, as Bataille warns us with his reminder that snow white would have been covered in dust when Prince Charming finds her (Bataille, 14). It is this pervasiveness, which makes dust so interesting. It is at the core of all conversations that concern the photographic and geologic arise. From the sedimentation of particles that produce the rock, which holds silver that is then pulverized into dust and spread upon the negative to make it light sensitive, that passes through the powder-coated lens which projects the image of the outside world onto it. Decimation and reconstitution. The basic flows. Forms pass through the realm of dust—a formlessness on a path of transition.

Dust accumulates on a piece of glass in the studio of Marcel Duchamp. Man Ray photographs it. As writer David Campany writes, this occurrence reflects the confusion of what it really is— “a photograph, a sculpture, or the depiction of an artwork in the making” (Campany, 46). This is one of the many crises of the photograph in its attempts to be art. The photographic dust breeding is at once all these things; it embodies this confusion of what purpose. Like the photograph, the dust upon Duchamp’s glass may be many things. It is at once abstract, and representational.

These two directions build different understandings of the dust in this frame. It is a non-object, a pure abstraction because it has no form in its un-composed state. Here, it is simply a layer that obfuscates the subject getting in the way of a clear reading or understanding. The other approach, however, is to see dust as a record, a document, a narrative of a space within a certain time frame. We can say that all dust is biographic, as dust in the domestic sphere is largely made of shed skin cells. The dust on

Duchamp's glass is then represents parts of himself and the others who visited his studio is the year the work sat untouched by human hands.

The accumulation of dust is also the suggestion of an unfinished work. If dust can be part of a work, and the work seeks to accumulate its surroundings, then it is a process of constant occurrence, something remaining sensitive and contextually aware. It attempts to bridge the gap between its status as a semblance of the world and its inherent presence within the world. The work remains active and unfinished while attempting to fill this divide.

Dust, like the index, is about physical contact. Obviously, for it to accumulate, an object must be left alone, as any contact with its surface would interrupt this process. But dust is also made from the cast offs of those things around it, and thus, represents a constant contact with all things in the vicinity of the dust accumulating object. It requires simultaneously, a total removal from touch, and yet retains sensual connection to the haptic sense.

The accumulation of dust, and its lack of form or stability, turns it as well towards the realm of the cosmetic, which only acts upon the surface. It is the dust of rouges that paint faces and the dust of pigments that paint in colors within the grayscale photographic postcards and stereoscopic images. It effects no real change, but instead only provides a skin treatment. I have hoped to think of photography as more than simply a skin, and when examined closely enough, it seems to be greater than only a mere surface. Perhaps, the same can be said for dust. The accumulation of dust on a shelf mirrors the sedimentation of layers that build a rock, but on a more human scale.

Dust is the basic marker of what occurs when nothing does. The reminder that no matter how removed and static a space may seem, no matter how unchanging, dust makes visible the microscopic activity occurring.

The Last Time

There is a world where you know when the last time you will see a place or person occurs. This is not a "sixth sense" possessed from birth, but something that develops within the final stages of the brain's maturation at around 25 years of age. It comes as a feeling of pressure around the throat. To simulate the feeling, you could put your four fingers to one side of your trachea and your thumb on the other and press lightly.

The value or level of connection to the thing to never be seen again increases the amount of pressure felt. Scientist have tried to explain this— how and why this sense develops on an atomic level with a theory about the gravitational connection between atoms. Their conjecture is that an increased attraction occurs from cohabitation, which the basis for the increased strain. However there has been no successful attempts to explain how the atoms may "know" when this last encounter will be.

This has led people to react in different ways. Some make a point to collecting things and staying in one place, never throwing away anything or being willing to meet anyone new because they understand the hurt that will follow. These people acquire large warehouses to store all things they have come in contact with. They duplicate the acts of certain religion sects who have silos where they place all swept up collected dust in order not to accidentally kill any microscopic animals within it. Their impulse however is, of course, more self-centered than those deeply concerned about harming other living creatures.

Others have abandoned long relationships all together— be it with objects or people. They understand the transitory nature of their friendships and are willing to undergo the slight discomfort that losing a good acquaintance will inevitably occur. They travel and meet new people feeling this throat pressure fairly often, but much less

acutely than others. Their connections are wider. They tend to be more nomadic. They tend to have less but move more.

Then there are those obsessed with collecting on a smaller scale, thinking that it is enough to only keep a piece of a person within their archive to lessen the pressure that is felt when a loss inevitably occurs. They try to insulate themselves against loss. They try to trick their sense by keeping these pieces closer to them. They tend to have neatly organized bags, or briefcases, carried with them at all times, within which vials, smaller bags, or other containers are kept so that a trace amount of all the persons they may have met are with them at all times. Many say it works, but there is no proof of this. It is not primarily the pain that is felt on the neck, but the forced knowledge that loss is occurring that creates so much fear. These collectors fight against this. The weight of being forced to know the end.

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